

Form PTO-1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE			ATTY. DOCKET NO. MI22-1322		SERIAL NO. 09/512,449	
LIST OF ART CITED BY APPLICANT (Use several sheets if necessary)					APPLICANT Vishnu K. Agarwal			
					FILING DATE February 23, 2000		GROUP 2822	
U.S. PATENT DOCUMENTS								
Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate	
MDP	AA	4,333,808	06/08/82	Bhattacharyya et al.	204	192		
MDP	AB	4,464,701	08/07/84	Roberts et al.	361	313		
MDP	AC	4,891,682	01/02/90	Yusa et al.	357	030		
MDP	AD	4,952,904	08/28/90	Johnson et al.	338	036		
MDP	AE	5,053,917	10/01/91	Miyasaka et al.	361	321		
MDP	AF	5,079,191	01/07/92	Shinriki et al.	437	235		
MDP	AG	5,111,355	05/05/92	Anand, deceased, et al.	361	313		
MDP	AH	5,142,438	08/25/92	Reinberg et al.	361	313		
MDP	AI	5,191,510	03/02/93	Huffman	361	313		
MDP	AJ	5,234,556	08/10/93	Oishi et al.	204	157.51		
MDP	AK	5,279,985	01/18/94	Kamiyama	437	060		
FOREIGN PATENT DOCUMENTS								
		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
MDP	AL	1-222469 A		JAPAN			abstract	
MDP	AM	403209869 A	09/12/91	JAPAN (Kamiyama)			abstract	
MDP	AN	04162527 A	06/08/92	JAPAN			abstract	
MDP	AO	05-221644	08/31/93	JAPAN (Munehiro et al.)			abstract	
MDP	AP	405343641 A	12/1993	JAPAN			abstract	
OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)								
MDP	AR		ABSTRACT, "Double high dielectric constant capacitor mfr. - involves depositing titanium dioxide and tantalum pentoxide layers on wafer site silicon then annealing wafer", Document No. 106, File No. DWPI, Pub-No. RD 299041 A (March 10, 1989).					
MDP	AS		CHANG, Peng-Heng, et al., "Structures of tantalum pentoxide thin films formed by reactive sputtering of Ta metal". Thin Solid Films 258, Pgs. 56-63 (1995).					
MDP	AT		EIMORI, T., et al., "A Newly Designed Planar Stacked Capacitor Cell with High dielectric Constant Film for 256Mbit DRAM", 631-634 IEDM, Nos. 26.3.1-26.3.4 (1993).					
EXAMINER <i>Marco S. Lizardo-Garcia</i>				DATE CONSIDERED <i>10/13/2000</i>				
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.								

Form PTO-1449 O I P E JUL 17 2000 U.S. PATENT AND TRADEMARK OFFICE		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. MI22-1322		SERIAL NO. 09/512,449	
LIST OF ART CITED BY APPLICANT (Use several sheets if necessary)				APPLICANT Vishnu K. Agarwal			
				FILING DATE February 23, 2000		GROUP <u>2023</u>	
U.S. PATENT DOCUMENTS							
*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
<i>MSP</i>	AA	5,279,985	01/18/94	Kamiyama	437	060	
<i>MDP</i>	AB	5,293,510	03/08/94	Takenaka	257	295	
<i>MDP</i>	AC	5,316,982	05/31/94	Taniguchi	437	236	
<i>MDP</i>	AD	5,330,935	07/19/94	Dobuzinsky et al.	437	239	
<i>MDP</i>	AE	5,335,138	08/02/94	Sandhu et al.	361	303	
<i>MDP</i>	AF	5,348,894	09/20/94	Gnade et al.	437	012	
<i>MDP</i>	AG	5,352,623	10/04/94	Kamiyama	437	052	
<i>MDP</i>	AH	5,362,632	11/08/94	Mathews	437	047	
<i>MDP</i>	AI	5,372,859	12/13/94	Thakoor	427	551	
<i>MDP</i>	AJ	5,397,446	03/14/95	Ishihara et al.	204	192.18	
<i>MDP</i>	AK	5,442,213	08/15/95	Okudaira et al.	257	310	
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	Translation
							Yes
<i>MDP</i>	AL	06-021333	01/28/94	JAPAN (Kato)			abstract
	AM						
	AN						
	AO						
	AP						
OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)							
<i>MDP</i>	AR	FAROOQ, M.A., et al., "Tantalum nitride as a diffusion barrier between Pd_2Si and $CoSi_2$ and aluminum", J. Appl. Phys., Vol. 65, No. 8, Pgs. 3017-3022 (April 15, 1989).					
<i>MDP</i>	AS	FAZAN, P.C., et al., "A High-C Capacitor (20.4 $fF/\mu m^2$) with Ultrathin CVD- Ta_2O_5 Films Deposited on Rugged Poly-Si for High Density DRAMs", 263-266 IEDM, Nos. 10.2.1-10.2.4 (1992).					
<i>MDP</i>	AT	IBM TECHNICAL DISCLOSURE BULLETIN, "Process for Selective Etching of Tantalum Oxide", Vol. 27, No. 12 (May 1985).					
EXAMINER <i>Marcelo S. Lujan-Garcia</i>			DATE CONSIDERED <i>10/13/2000</i>				
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

Form PTO-1449  LIST OF ART CITED BY APPLICANT (Use several sheets if necessary)				U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. MI22-1322		SERIAL NO. 09/512,449	
				APPLICANT Vishnu K. Agarwal					
				FILING DATE February 23, 2000		GROUP 200			
U.S. PATENT DOCUMENTS									
Initial		Document Number	Date	Name		Class	Subclass	Filing Date If Appropriate	
MDP	AA	5,466,629	11/14/95	Mihara et al.		437	060		
MDP	AB	5,468,687	11/21/95	Carl et al.		437	235		
MDP	AC	5,471,364	11/28/95	Summerfelt et al.		361	321.4		
MDP	AD	5,504,041	04/02/96	Summerfelt		437	235		
MDP	AE	5,508,953	04/16/96	Fukuda et al.		365	145		
MDP	AF	5,510,651	04/23/96	Maniar et al.		257	751		
MDP	AG	5,552,337	09/03/96	Kwon et al.		437	060		
MDP	AH	5,555,486	09/10/96	Kingon et al.		361	305		
MDP	AI	5,561,307	10/01/96	Mihara et al.		257	295		
MDP	AJ	5,585,300	12/17/96	Summerfelt		437	060		
MDP	AK	5,617,290	04/01/97	Kulwicki et al.		361	321.4		
FOREIGN PATENT DOCUMENTS									
		Document Number	Date	Country		Class	Subclass	Translation	
								Yes	No
	AL								
	AM								
	AN								
	AO								
	AP								
OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)									
MDP	AR	KAMIYAMA, Satoshi, et al., "Highly Reliable 2.5nm Ta_2O_5 Capacitor Process Technology for 256Mbit DRAMs", 827-830 IEDM, Nos. 32.2.1-32.2.4 (1991).							
MDP	AS	KAMIYAMA, Satoshi, et al., "Ultrathin Tantalum Oxide Capacitor Dielectric Layers Fabricated Using Rapid Thermal Nitridation prior to Low Pressure Chemical Vapor Deposition", J. Electrochem. Soc., Vol. 140, No. 6, Pgs. 1617-1625 (June 1993).							
MDP	AT	LESAICHÈRE, P-Y, et al., "A Gbit-scale DRAM stacked capacitor technology with ECR MOCVD $SrTiO_3$ and RIE patterned RuO_2/TiN storage nodes", 831-834 IEDM, Nos. 34.1.1-34.1.4 (1994).							
EXAMINER <i>Marcelo S. Lujan-Garcia</i>				DATE CONSIDERED <i>10/13/2000</i>					
*EXAMINER: Initial if reference considered; whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.									

Form PTO-1449

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.
MI22-1322SERIAL NO.
09/512,449LIST OF ART CITED BY APPLICANT
(Use several sheets if necessary)APPLICANT
Vishnu K. AgarwalFILING DATE
February 23, 2000GROUP 2000

U.S. PATENT DOCUMENTS

*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
MDP	AA	5,641,702	06/24/97	Imai et al.	438	396	
MDP	AB	5,654,222	08/05/97	Sandhu et al.	438	003	
MDP	AC	5,663,088	09/02/97	Sandhu et al.	438	396	
MDP	AD	5,668,040	09/16/97	Byun	438	396	
MDP	AE	5,688,724	11/18/97	Yoon et al.	437	235	
MDP	AF	5,728,603	03/17/98	Emesh et al.	437	235	
MDP	AG	5,741,626	04/21/98	Jain et al.	430	314	
MDP	AH	5,780,359	07/14/98	Brown et al.	438	659	
MDP	AI	5,786,248	07/28/98	Schuegraf	438	240	
MDP	AJ	5,790,366	08/04/98	Desu et al.	361	305	
MDP	AK	5,798,903	08/25/98	Dhote et al.	361	321.4	

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
	AL							
	AM							
	AN							
	AO							
	AP							

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)

MDP	AR	McINTYRE, Paul C., et al., "Kinetics and mechanisms of TiN oxidation beneath thin films", J. Appl. Phys.,
		Vol. 82, No. 9, Pgs. 4577-4585 (November 1, 1997).
MDP	AS	ONISHI, Shigeo, et al., "A Half-Micron Ferroelectric Memory Cell Technology with Stacked Capacitor Structure", 843-846 IEDM,
		Nos. 34.4.1-34.4.4 (1994)
MDP	AT	SHINRIKI, Hiroshi, et al., "UV-O ₃ and Dry-O ₂ : Two-Step Annealed Chemical Vapor-Deposited Ta ₂ O ₅ Films for Storage
		Dielectrics of 64-Mb DRAM's", IEEE Transactions on Electron Devices, Vol. 38, No. 3, Pgs. 455-462 (March 1991).

EXAMINER

Sharon D. Leggiero-Bresco

DATE CONSIDERED

10/13/2000

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<p style="text-align: center;">U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE</p> <p style="text-align: center;">LIST OF ART CITED BY APPLICANT (Use several sheets if necessary)</p> <p style="text-align: center;">JUL 17 2000</p> <p style="text-align: center;">PRINTED TRADEMARK OFFICE 6</p>					ATTY. DOCKET NO. MI22-1322		SERIAL NO. 09/512,449	
					APPLICANT Vishnu K. Agarwal			
					FILING DATE February 23, 2000		GROUP 252	
					U.S. PATENT DOCUMENTS			
*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate	
<i>MDP</i>	AA	5,807,774	09/15/98	Desu et al.	438	240		
<i>MDP</i>	AB	5,814,852	09/29/98	Sandhu et al.	257	310		
<i>MDP</i>	AC	5,834,345	11/10/98	Shimizu	438	158		
<i>MDP</i>	AD	5,837,591	11/17/98	Shimada et al.	438	381		
<i>MDP</i>	AE	5,837,593	11/17/98	Park et al.	438	396		
<i>MDP</i>	AF	5,838,035	11/17/98	Ramesh	257	295		
<i>MDP</i>	AG	5,843,830	12/01/98	Graettinger et al.	438	396		
<i>MDP</i>	AH	5,844,771	12/01/98	Graettinger et al.	361	303		
<i>MDP</i>	AI	5,872,696	02/16/99	Peters et al.	361	305		
<i>MDP</i>	AJ	5,888,295	03/30/99	Sandhu et al.	117	089		
<i>MDP</i>	AK	5,899,740	05/04/99	Kwon	438	627		
FOREIGN PATENT DOCUMENTS								
		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
	AL							
	AM							
	AN							
	AO							
	AP							
OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)								
<i>MDP</i>	AR	WOLF, Stanley, "Semiconductor Memory Process Integration", Silicon Processing For The VLSI Era, Vol. II,						
		Pgs. 589-592 (c. 1990).						
<i>MDP</i>	AS	YAMAGUCHI, Hiromu, et al., "Structural and Electrical Characterization of SrTiO ₃ Thin Films Prepared by Metal Organic						
		Chemical Vapor Deposition", Jpn. J. Appl. Phys., Vol. 32, Pt. 1, No. 9B, Pgs. 4069-4073 (September 1993).						
	AT							
EXAMINER <i>Marcos S. Linares-Perez</i>				DATE CONSIDERED <i>10/13/2000</i>				
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.								

Form PTO-1449 O I P E JUL 17 2000 PATENT & TRADEMARK OFFICE	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. MI22-1322	SERIAL NO. 09/512,449
LIST OF ART CITED BY APPLICANT (Use several sheets if necessary)		APPLICANT Vishnu K. Agarwal		
		FILING DATE February 23, 2000	GROUP 2622	

U.S. PATENT DOCUMENTS

*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
MDP	AA	5,910,218	06/08/99	Park et al.	118	719	
MDP	AB	5,910,880	06/08/99	DeBoer et al.	361	311	
MDP	AC	5,916,634	06/29/99	Fleming et al.	427	255.2	
MDP	AD	5,919,531	07/06/99	Arkles et al.	427	576	
MDP	AE	5,930,584	07/27/99	Sun et al.	438	003	
MDP	AF	5,933,316	08/03/99	Ramakrishnan et al.	361	311	
MDP	AG	5,955,758	09/21/99	Sandhu et al.	257	306	
MDP	AH	5,970,369	10/19/99	Hara et al.	438	488	
MDP	AI	5,985,714	11/16/99	Sandhu et al.	438	253	
MDP	AJ	5,990,507	11/23/99	Mochizuki et al.	257	295	
MDP	AK	6,010,744	01/04/00	Buskirk et al.	427	081	

FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation	
						Yes	No
	AL						
	AM						
	AN						
	AO						
	AP						

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)

	AR		
	AS		
	AT		

EXAMINER <i>Khans/Liz and Gray</i>	DATE CONSIDERED <i>10/19/2000</i>
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Form PTO-1449

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.
MI22-1322SERIAL NO.
09/512,449LIST OF ART CITED BY APPLICANT
(Use several sheets if necessary)APPLICANT
Vishnu K. AgarwalFILING DATE
February 23, 2000

GROUP 202

O I P E
JUL 17 2000
PATENT & TRADEMARK OFFICE
607

U.S. PATENT DOCUMENTS

*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
MDP	AA	6,015,989	01/18/00	Horikawa et al.	257	309	
MDP	AB	6,017,789	01/25/00	Sandhu et al.	438	240	
MDP	AC	6,027,969	02/22/00	Huang et al.	438	254	
MDP	AD	6,028,360	02/22/00	Nakamura et al.	257	758	
MDP	AE	6,046,469	04/04/00	Yamazaki et al.	257	306	
MDP	AF	6,051,859	04/18/00	Hosotani et al.	257	306	
	AG						
	AH						
	AI						
	AJ						
	AK						

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
	AL							
	AM							
	AN							
	AO							
	AP							

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)

	AR		
	AS		
	AT		

EXAMINER

Masao & Ligand Group

DATE CONSIDERED

10/13/2000

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449 <i>OIRE</i> JUL 17 2000 PATENT & TRADEMARK OFFICE		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE			ATTY. DOCKET NO. MI22-1322		SERIAL NO. 09/512,449	
LIST OF ART CITED BY APPLICANT (Use several sheets if necessary)					APPLICANT Vishnu K. Agarwal			
					FILING DATE February 23, 2000		GROUP 2622	
U.S. PATENT DOCUMENTS								
*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate	
MDP	AA	08/994,054		Parekh, et al.			12/19/97	
MDP	AB	09/033,063		Al-Shareef, et al.			02/28/98	
MDP	AC	09/033,064		Al-Shareef, et al.			02/28/98	
MDP	AD	09/058,612		Agarwal, et al.			04/10/98	
MDP	AE	09/059,057		Agarwal, et al.			04/10/98	
MDP	AF	09/074,638		Agarwal, et al.			05/07/98	
MDP	AG	09/083,257		Al-Shareef, et al.			05/21/98	
MDP	AH	09/086,389		Sandhu, et al.			05/28/98	
MDP	AI	09/098,035		DeBoer, et al.			06/15/98	
MDP	AJ	09/122,473		Schuegraf			07/23/98	
MDP	AK	09/137,780		Al-Shareef, et al.			08/20/98	
FOREIGN PATENT DOCUMENTS								
		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
	AL							
	AM							
	AN							
	AO							
	AP							
OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)								
	AR							
	AS							
	AT							
EXAMINER <i>Marcia S. Liguori-Gruya</i>				DATE CONSIDERED <i>10/13/2000</i>				
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.								

Form PTO-1449

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.
MI22-1322SERIAL NO.
09/512,449LIST OF ART CITED BY APPLICANT
(Use several sheets if necessary)APPLICANT
Vishnu K. AgarwalFILING DATE
February 23, 2000GROUP ~~2000~~

U.S. PATENT DOCUMENTS

*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
MDP	AA	09/185,412		Graettinger, et al.			11/03/98
MDP	AB	09/229,518		DeBoer, et al.			01/13/99
MDP	AC	09/512,149		Agarwal			02/23/00
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation	
						Yes	No
	AL						
	AM						
	AN						
	AO						
	AP						

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)

	AR		
	AS		
	AT		

EXAMINER

James S. Lippman - Grey

DATE CONSIDERED

10/13/2000

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.